

APPENDIX B
ENVIRONMENTAL EVALUATION

Appendix B

ENVIRONMENTAL EVALUATION

Analysis of potential environmental impacts of proposed airport development projects is an important component of the Airport Master Plan process. The primary purpose of this chapter is to evaluate the proposed development program for Ernest A. Love Field to determine whether proposed development actions could individually or collectively affect the quality of the environment.

A major component of this evaluation is to coordinate with appropriate federal, state, and local agencies to identify potential environmental concerns that should be considered prior to the design and construction of new facilities at the airport. Agency coordination consisted of a letter requesting comments and/or information regarding the proposed airport development. Issues of concern that were identified as part of this process are presented in the following discussion. The letters received from various agencies are included in **Appendix C**.

Any major improvements planned for Ernest A. Love Field will require compliance with the National Environmental Policy Act of 1969, as amended (NEPA). Compliance with NEPA is generally satisfied by the preparation of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). While this section of the master plan is not designed to satisfy NEPA requirements, it is intended to supply a preliminary review of environmental considerations that would need to be analyzed in more detail within the NEPA process.

PROPOSED DEVELOPMENT

As a result of the Master Plan analysis, a number of airport improvements have been recommended for implementation over the 20-year planning period. The **Airport Layout Plan** (Chapter Five) illustrates the development proposed during this period. The following is a list of the major projects planned for completion.

Airside:

- Extend the primary runway (Runway 3R-21L) 1,684 feet to the northeast (to 9,300 feet in length)
- Extend the associated parallel taxiways 1,684 feet
- Install eight high-speed exit taxiways between Runway 3R-21L and the associated parallel taxiways
- Extend the parallel runway (Runway 3L-21R) 1,338 feet to the northeast (to 6,200 feet in length) and widen the runway from 60 feet to 75 feet
- Extend the associated parallel taxiways 1,338 feet
- Extend the northeast-side parallel taxiway associated with Runway 12-30 to full-length
- Extend runway and taxiway lighting; relocate existing runway lighting on Runway 3L-21R
- Relocate Precision Approach Path Indicator Lights (PAPIs) on both Runway 21L and 21R
- Relocate Runway End Identifier Lights (REILs)
- Relocate Medium Approach Lighting System with Runway Alignment Indicator Lights (MALSR)
- Acquire approximately 40 acres of land to accommodate the relocated Runway Protection Zones from the extended runways and the proposed access road

Landside:

- Demolish the existing commercial terminal building
- Construct commercial terminal facilities, including: terminal building, automobile parking, and aircraft apron
- Relocate 20 and construct 98 T-hangars/T-shades and associated taxilanes
- Construct conventional hangars
- Expand and construct aircraft apron area
- Install 32 aircraft tiedowns
- Construct 158 additional automobile parking spaces
- Improve existing access roads, including widening the roadways
- Extend access road around northeast end of airfield

ENVIRONMENTAL CONSEQUENCES - SPECIFIC IMPACTS

The following text briefly examines the airport development actions and their potential to cause significant environmental impact. The following subsections address each of the specific impact categories outlined by *FAA Order 5050.4A*.

NOISE

Aircraft sound emissions are often the most noticeable environmental effect an airport will produce on the surrounding community. If the sound is sufficiently loud or frequent in occurrence, it may interfere with various activities or otherwise be considered objectionable.

To determine noise related impacts that the proposed development could have on the environment surrounding Ernest A. Love Field, noise exposure patterns were analyzed for the years 1996 and 2020. The 1996 contours represent aircraft noise based on the recorded number of aircraft operations obtained from the FAA Airport Traffic Control Tower. The 2020 contours represent the highest number of forecast aircraft operations of the 20-year planning period.

Noise Contour Development

The basic methodology employed to define aircraft noise levels involves the use of a mathematical model for aircraft noise prediction. The *Yearly Day-Night Average Sound Level (DNL)* is used in this study to assess aircraft noise. DNL is the metric currently accepted by the Federal Aviation Administration (FAA), the Environmental Protection Agency (EPA), and the Department of Housing and Urban Development (HUD) as an appropriate measure of cumulative noise exposure. These three federal agencies have each identified the 65 DNL noise contour as the threshold of incompatibility, meaning levels below 65 DNL are considered compatible with all underlying land uses. Most federally funded airport noise studies use DNL as the primary metric for evaluating noise.

DNL is defined as the average A-weighted sound level as measured in decibels (dB), during a 24-hour period; a 10 dB penalty is applied to noise events occurring at night (10:00 p.m. to 7:00 a.m.). DNL is a summation metric which allows objective analysis and can describe noise exposure comprehensively over a large area.

Since noise decreases at a consistent rate in all directions from a source, points of equal DNL noise levels are routinely indicated by means of a contour line. The various contour lines are then superimposed on a map of the airport and its environs. It is important to recognize that a line drawn on a map does not imply that a particular noise condition exists on one side of the line and not on the other. DNL calculations do not precisely define noise impacts. Nevertheless, DNL contours can be used to: (1) highlight existing or potential incompatibilities between an airport and any surrounding development; (2) assess relative exposure levels; (3) assist in preparation of airport environs land use plans; and (4) provide guidance in the development of land use control devices, such as zoning ordinances, subdivision regulations and building codes.

The noise contours for Ernest A. Love Field were developed from the Integrated Noise Model, Version 5.01. The Integrated Noise Model (INM) was developed by the Transportation Systems Center of the U.S. Department of Transportation at Cambridge, Massachusetts, and has been specified by the FAA as one of two models acceptable for federally funded noise analysis.

The INM is a computer model which accounts for each aircraft along flight tracks during an average 24-hour period. These flight tracks are coupled with separate tables contained in the data base of the INM which relate to noise, distances and engine thrust for each make and model of aircraft type selected.

Recorded numbers of aircraft operations for 1996 and forecasts of future aviation activity in 2020 were used as input to the noise model. Forecasts of future aviation activity at Ernest A. Love Field were developed as part of the planning process.

Computer input files for the noise analysis assumed implementation of the recommended development of the airport as identified on the Airport Layout Plan. The input files contained operational data, runway utilization, aircraft flight tracks, and fleet mix as projected in the plan. The operational data and aircraft fleet mix used are summarized in **Table A, Aviation Forecast Summary**.

TABLE A Aircraft Forecast Summary Ernest A. Love Field		
Type of Operation	Annual Operations	
	1996	2020
General Aviation/ERAU	340,870	442,000
Air Carrier (Commuter/Air Taxi)	6,403	17,856
Total Annual Operations	347,273	459,856

For more detailed information on the aviation forecasts for Ernest A. Love Field refer to **Chapter Two, Aviation Demand Forecasts**.

Basic assumptions used as input to the INM noise model are presented in **Table B, Noise Contour Input Data**.

TABLE B
Noise Contour Input Data
Ernest A. Love Field

Runway Use		
Runway	Percent of Total Operations	
	1996	2020
3R	20	20
21L	39	39
3L	10	10
21R	21	21
12	5	5
30	5	5
Day/Night Split		
Type of Operation	Percent Day/Night	Percent Day/Night
General Aviation/ERAU	90/10	90/10
Air Carrier (Commuter)	100/0	100/0

Results of Noise Analysis

The aircraft noise contours generated from aviation forecasts for Ernest A. Love Field are illustrated on **Exhibit A, 1996 Aircraft Noise Exposure** and **Exhibit B, 2020 Aircraft Noise Exposure**.

For the year 1996, the 65 DNL noise contour extends approximately 5,000 feet southwest of the existing southwestern end of the primary runway (Runway 3R-21L), and approximately 4,300 feet northeast of the northeastern end of the runway. By the year 2020, the 65 DNL noise contour would be expected to extend approximately 15,500 feet southwest from the southwestern runway end, and 8,200 feet northeast from the northeastern runway end. Based on 1996 operational levels, the 65 DNL and above noise contour encompassed 1.01 square miles; based on the 2020 year forecasts, the 65 DNL and above contour would be expected to encompass 1.34 square miles. **Table C, Area of Noise Contour**, reports the estimated size of each contour for the years 1996 and 2020. Due to the small size of aircraft that use Runways 12-30 and 3L-21R and the limited number of operations on these runways, the contours associated with these two runways extend no more than several hundred feet beyond the ends of the runways.

TABLE C Area of Noise Contours Ernest A. Love Field				
	Noise Contour Area (in square miles)			
Year	60 DNL	65 DNL	70 DNL	75 DNL
1996	2.17	1.01	0.55	0.25
2020	2.85	1.34	0.74	0.38

COMPATIBLE LAND USE

Aircraft noise contours can be used as a guide to determine potential incompatible land uses in the vicinity of airports. To identify noise sensitive land uses potentially impacted by aircraft noise, the noise contours are overlaid on current and future land use maps for the airport and vicinity.

Federal Aviation Regulation (FAR) Part 150 recommends guidelines for planning land use compatibility within various levels of aircraft noise exposure (**Exhibit C, Land Use Guidelines**). As the name indicates, these are guidelines only; *FAR Part 150* explicitly states that determinations of noise compatibility and regulation of land use are purely local responsibilities.

These guidelines indicate that mobile home parks, outdoor music shells and amphitheaters are incompatible within areas affected by noise levels above 65 DNL. The federal guidelines note, however, that where local communities determine that these uses are permissible, sound attenuation measures should be used. Several other uses, including hospitals, nursing homes, churches, auditoriums, livestock breeding, amusement parks, resorts, and camps, are considered incompatible at levels above 75 DNL.

Experience has shown that new residential development should be prohibited in areas subject to noise exceeding 65 DNL, unless local conditions indicate that soundproofed residences would not be adversely impacted by noise. The most obvious condition would be the presence of high background noise levels which are often found in high-density urban areas.

Where existing residential uses occur, further expansion should be discouraged. Measures to mitigate noise impacts should be taken if further residential development cannot be prevented. In some communities where there is a severe shortage of developable land, local governments often are compelled to permit more residential development within the 65 DNL contour. In such cases, the FAA strongly recommends soundproofing. A requirement for noise easements as a condition of development approval might also be desirable. Based on the results of the noise modeling efforts, the 65 DNL noise contour for 1996 and 2020 would extend over residential structures. These residential structures are located adjacent to the airport property in the southern quadrant.

SOCIAL IMPACTS

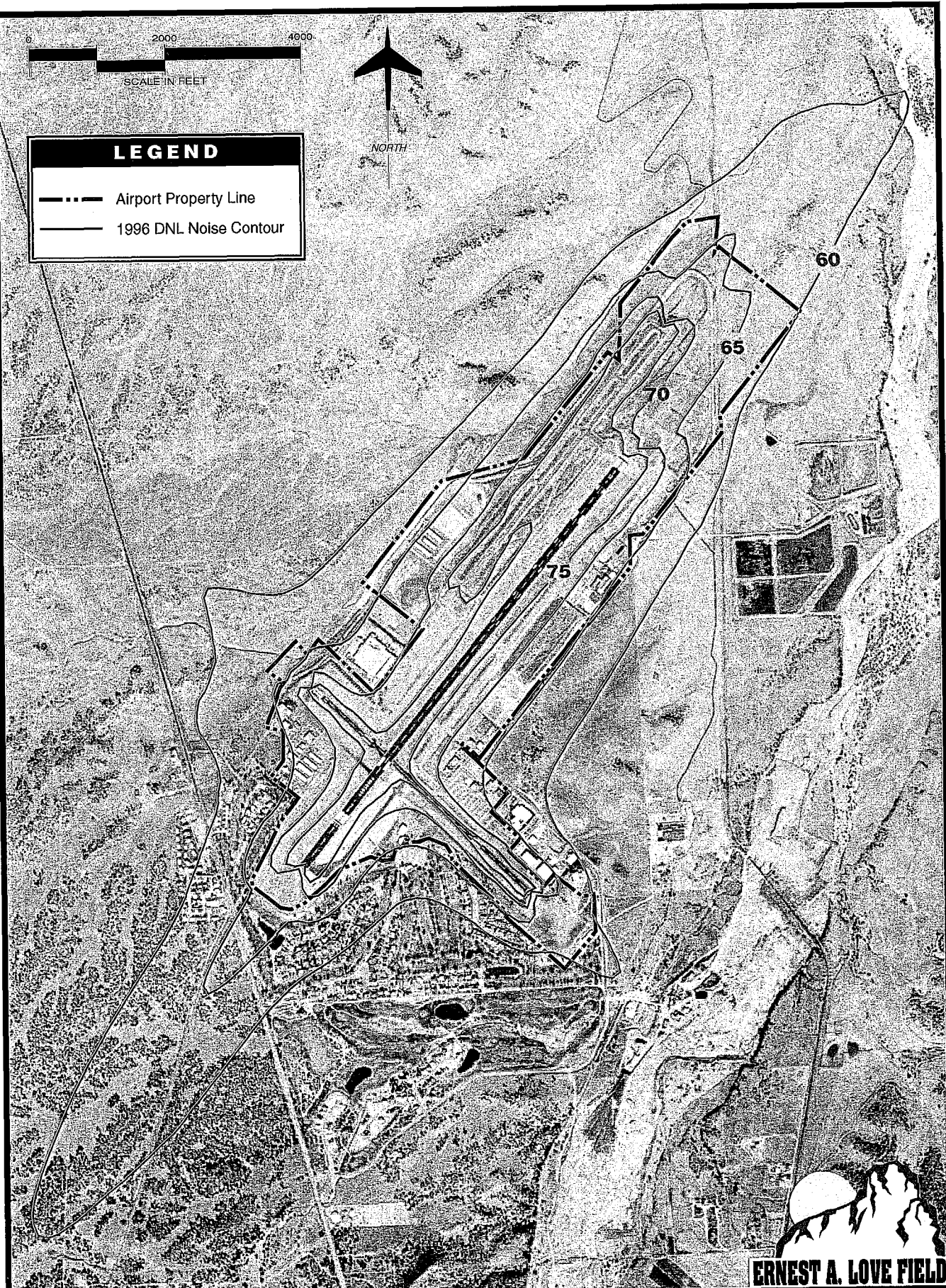


PHOTO DATE - 1/7/96



Exhibit A
1996 AIRCRAFT NOISE EXPOSURE

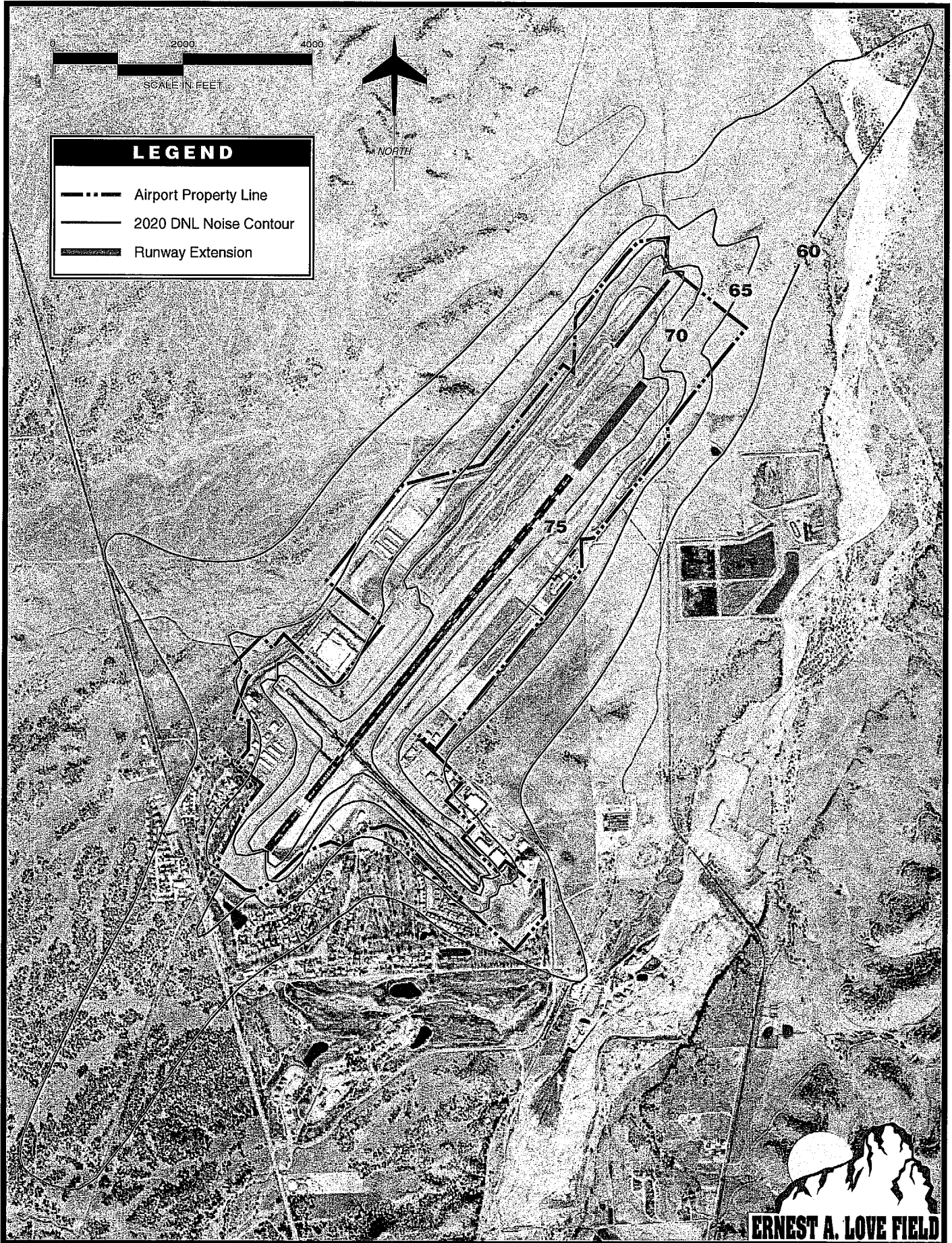


PHOTO DATE - 1/7/96

Exhibit B
2020 AIRCRAFT NOISE EXPOSURE
21L TO 9,300' / 21R TO 6,200'

LAND USE	Yearly Day-Night Average Sound Level (DNL) in Decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
RESIDENTIAL						
Residential, other than mobile homes and transient lodgings	Y	N ¹	N ¹	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N ¹	N ¹	N ¹	N	N
PUBLIC USE						
Schools	Y	N ¹	N ¹	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y ²	Y ³	Y ⁴	Y ⁴
Parking	Y	Y	Y ²	Y ³	Y ⁴	N
COMMERCIAL USE						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y ²	Y ³	Y ⁴	N
Retail trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y ²	Y ³	Y ⁴	N
Communication	Y	Y	25	30	N	N
MANUFACTURING AND PRODUCTION						
Manufacturing, general	Y	Y	Y ²	Y ³	Y ⁴	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y ⁶	Y ⁷	Y ⁸	Y ⁸	Y ⁸
Livestock farming and breeding	Y	Y ⁶	Y ⁷	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y ⁵	Y ⁵	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

See other side for notes and key to table.



KEY

Y (Yes)	Land Use and related structures compatible without restrictions.
N (No)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, 35	Land Use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

NOTES

- 1 Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
- 2 Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- 3 Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- 4 Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- 5 Land use compatible provided special sound reinforcement systems are installed.
- 6 Residential buildings require a NLR of 25.
- 7 Residential buildings require a NLR of 30.
- 8 Residential buildings not permitted.

Source: **F.A.R. Part 150, Appendix A, Table 1.**



ERNEST A. LOVE FIELD

Social impacts known to result from airport improvement projects are often associated with the relocation of residences or businesses or other community disruptions. Development of the proposed improvements is not expected to result in the relocation or removal of any residence or business.

The proposed development and associated land acquisition are not anticipated to divide or disrupt an established community, interfere with orderly planned development, or create a short-term, appreciable change in employment.

The land proposed for acquisition as a part of airport development is located at the northern end of the existing airport property and is currently undeveloped.

INDUCED SOCIOECONOMIC IMPACTS

Induced socioeconomic impacts address those secondary impacts to surrounding communities resulting from the proposed development, including shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity to the extent influenced by the airport development. According to *FAA Order 5050.4A*, "Induced impacts will normally not be significant except where there are also significant impacts in other categories, especially noise, land use or direct social impacts."

Significant shifts in patterns of population movement or growth or public service demands are not anticipated as a result of the proposed development. It is expected, however, that the proposed new airport development would potentially induce positive socioeconomic impacts for the community over a period of years. The airport, with expanded facilities and services would be expected to attract additional users. It is expected to encourage tourism, industry, and trade and to enhance the future growth and expansion of the community's economic base. Future socioeconomic impacts resulting from the proposed development would be expected to be primarily positive in nature.

AIR QUALITY

The federal government has established a set of health-based ambient air quality standards (NAAQS) for the following six pollutants: carbon monoxide (CO), nitrogen dioxide (NO_x), sulphur dioxide (SO_x), ozone, lead, and PM10 (particulate matter of 10 microns or smaller). The

airport is located in an air quality attainment area, that is, it currently meets federal health standards for air pollution levels, including particulates.

According to the FAA Order 5050.4A and the handbook "Air Quality Procedures for Civilian Airports and Air Force Bases" Report No. FAA-EE-82-21, if the Proposed Action is in a state which does not have applicable indirect source review (ISR) requirements, as with Arizona, then projected airport activity levels are examined. According to the handbook, air quality analysis is required for Ernest A. Love Field since the airport has more than 180,000 annual general aviation operations forecasted during the planning period.

The Arizona Department of Environmental Quality (ADEQ), was contacted to determine the potential impacts the proposed development would have on air quality. Although no response was received, they typically are concerned with any potential release (i.e., a spill, leak, emission, discharge, escape, leach or disposal) of a regulated substance into the air, groundwater, surface water or subsurface soils. ADEQ should be contacted again as part of any NEPA required documentation, such as an EA or an EIS to confirm their response.

During construction of proposed development items, steps should be taken to minimize the amount of particulate matter (dust) generated, including incidental emissions caused by strong winds, as well as tracking of dirt off the construction sites by machinery and trucks. The generation of fugitive dust as a result of construction activities is anticipated due to the movement of heavy construction equipment and the exposure and disturbance of surface soils. This impact is expected to be both temporary and localized. In addition, portable sources of air pollution, such as rock, sand, gravel and asphaltic concrete plants are required to be permitted by ADEQ prior to commencing operations.

WATER QUALITY

Water quality concerns, related to airport expansion most often relate to domestic sewage disposal, increased surface runoff and soil erosion, and the storage and handling of fuel, petroleum, solvents, etc. As previously discussed, ADEQ was contacted but no response was received. Typically ADEQ notes that their concerns focus on any potential release (i.e., a spill, leak, emission, discharge, escape, leach or disposal) of a regulated substance into the air, groundwater, surface water or subsurface soils.

Sanitary sewage disposal for the airport is provided through individual septic systems. With the proposed expansion, the generation of sanitary sewage on the airport would be expected to increase. While septic systems would likely be adequate for the short term, the development of a sewage treatment plant should be considered in the future. This treatment facility could accommodate not only the septic waste, but also waste from any aircraft wash racks and deicing facilities.

Construction of the proposed improvements will result in an increase in impermeable surfaces and a resulting increase in surface runoff from both landside and airside facilities. The proposed development might result in short-term impacts on water quality, particularly suspended sediments, during and shortly after precipitation events during the construction phase. Recommendations established in FAA Advisory Circular 150/5370-10 *Standards for Specifying*

Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control should be incorporated in project design specifications to mitigate potential impacts. These standards include temporary measures to control water pollution, soil erosion, and siltation through the use of fiber mats, gravel, mulches, slope drains, and other erosion control methods.

In accordance with Section 402(p) of the *Clean Water Act*, as added by Section 405 of the *Water Quality Act of 1987*, a *National Pollution Discharge Elimination System* (NPDES) General Permit is required from the Environmental Protection Agency. NPDES requirements apply to industrial facilities, including airports and all construction projects that disturb five or more acres of land.

With regard to construction activities, the City of Prescott and all applicable contractors will need to comply with the requirements and procedures of the NPDES General Permit, including the preparation of a *Notice of Intent* and a *Stormwater Pollution Prevention Plan*, prior to the initiation of project construction activities.

The construction program, as well as specific characteristics of project design, should incorporate *Best Management Practices* (BMPs) to reduce erosion, minimize sedimentation, control non-stormwater discharges, and protect the quality of surface water features potentially affected. BMPs are defined as nonstructural and structural practices that provide the most efficient and practical means of reducing or preventing pollution of stormwater. The selection of these practices at Ernest A. Love Field should be based on the site's characteristics and focus on those categories of erosion factors within the contractor's control, including: (1) construction scheduling, (2) limiting exposed areas, (3) runoff velocity reduction, (4) sediment trapping, and (5) good housekeeping practices. Inspections of the construction site and associated reporting may be required.

In their response (**Appendix C**), received October 24, 1996, the Department of the Army, Corps of Engineers, expressed the following concern. The construction activities associated with airport development may require a Department of the Army permit issued under Section 404 of the Clean Water Act. They noted that a 404 permit would be required for the discharge of dredges or fill material into the waters of the United States, including adjacent wetlands.

Spills, leaks and other releases of hazardous substances into the local environment are often a concern at airports due to fuel storage, fueling activities and maintenance of aircraft. Stormwater flowing over impermeable surfaces may pick up petroleum product residues and, if not controlled, transport them off site.

Also of crucial concern would be spills or leaks of substances that could filter through the soils and contaminate groundwater resources. As growth in aviation activity occurs, additional fuel storage facilities will be necessary. Fuel storage facilities must be designed, constructed and maintained in compliance with Federal, State and local regulations, and must be registered with ADEQ. These regulations include standards for underground storage tank construction materials, the installation of leak or spill detection devices, and regulations for stormwater discharge.

**DEPARTMENT OF
TRANSPORTATION ACT,
SECTION 4(F) LANDS**

Paragraph 47e, *FAA Order 5050.4A* provides the following.

(7)(a) "Section 4(f) provides that the Secretary shall not approve any program or project which requires the use of any publicly-owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance, or any land from an historic site of national, state or local significance as determined by the officials having jurisdiction thereof unless there is no feasible and prudent alternative to the use of such land and such program includes all possible planning to minimize harm."

(7)(b) "...When there is no physical taking but there is the possibility of use of or adverse impacts to Section 4(f) land, the FAA must determine if the activity associated with the proposal conflicts with or is compatible with the normal activity associated with this land. The proposed action is compatible if it would not affect the normal activity or aesthetic value of a public park, recreation area, refuge, or historic site. When so construed, the action would not constitute use and would not, therefore, invoke Section 4(f) of the DOT Act."

The closest Section 4(f) land to the airport is the Antelope Hills Golf Course, owned by the City of Prescott. This golf course is located adjacent to the southern airport boundary, between airport property and State Route 89. The next closest park or recreational facility is Heritage Park, also owned by the City of Prescott, located approximately two miles south of the airport along Willow Creek Road.

Because airport expansion is proposed for the north side of the facility, the proposed airport development is not anticipated to impact any Section 4(f) properties.

**HISTORIC, ARCHITECTURAL,
ARCHAEOLOGICAL AND
CULTURAL RESOURCES**

The Arizona State Historic Preservation Officer (SHPO) was contacted regarding the potential presence of cultural resources within the area of the proposed development. In their response dated November 14, 1996 (**Appendix C**), they stated "Our records check does not indicate that archaeological sites or cultural resources have been identified within or adjacent to the airport property, however, the property has not been systematically surveyed." The SHPO also noted that "...this project should be reviewed pursuant to Section 106 of the National Historical Preservation Act and NEPA."

A survey of the site should be conducted to determine whether any findings are significant, and whether any additional mitigation measures are necessary prior to the implementation of the proposed development. In addition, it is anticipated that the proposed acquisition area will need

to be surveyed before it can be transferred to the City of Prescott. Should archaeological resources be encountered during any preconstruction or construction activities, work should cease in the area of the discovery and the SHPO be notified immediately, pursuant to 36 CFR 800.11.

BIOTIC COMMUNITIES AND THREATENED AND ENDANGERED SPECIES OF FLORA AND FAUNA

As part of this evaluation, the U.S. Department of the Interior, Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department (AG&F) were contacted to request information regarding potential impacts to threatened or endangered species or species of special concern.

The AG&F responded in a letter dated October, 31, 1996. According to the letter, the AG&F Heritage Management System, has been documented that the presents of the Belted Kingfisher (*Ceryle Alcyon*) has occurred in the vicinity of the airport. This particular species is considered to be "wildlife of special concern in Arizona." The letter also states that "due to the proximity and the disturbed nature of the area, the Department does not anticipate any significant adverse affects to wildlife resources as a result of the proposed plans."

The USFWS responded in a letter dated October 24, 1996. In their letter, they note the following thirteen (13) federally-listed endangered species within Yavapai County: Arizona Agave (*Agave Arizonaica*), Arizona Cliffrose (*Purshia Subintegra*), Hualapai Mexican Vole (*Microtus Mexicanus hualpaiensis*), Colorado Squawfish (*Ptychocheilus Lucius*), Desert Pupfish (*Cyprinodon Macularius*), Gila Topminnow (*Poeciliopsis Occidentalis*), Gila Trout (*Oncorhynchus Gilae*), Razorback Sucker (*Xyrauchen Texanus*), Spikedace (*Meda Fulgida*), American Peregrine Falcon (*Falco Peregrinus Anatum*), Bald Eagle (*Haliaeetus Leucocephalus*), Mexican Spotted Owl (*Strix Occidentalis Lucida*), and Southwestern Willow Flycatcher (*Empidonax Traillii Extimus*). In addition, one proposed and two candidate federally endangered species were also identified within Yavapai County. The proposed species is the Cactus Ferruginous Pygmy-Owl (*Glaucidium Brasilianum Cactorum*), and the two Candidate species are the Page Springsnail (*Pyrgulopsis Morrisoni*) and the Chiricahua Leopard Frog (*Rana Chiricahuensis*).

Prior to any development, a biological survey should be conducted to evaluate the types of native vegetation to be disturbed by the proposed development and to determine whether any impacts to the above referenced species would be anticipated.

COASTAL MANAGEMENT PROGRAM AND COASTAL BARRIERS

The proposed development of Ernest A. Love Field is not located within the jurisdiction of a State Coastal Management Program. The Coastal Zone Barrier resources system consists of

undeveloped coastal barriers along the Atlantic and Gulf Coasts. These resources are well outside of the sphere of influence of Ernest A. Love Field and its vicinity, and do not apply to the proposed development.

WILD AND SCENIC RIVERS

The proposed development of Ernest A. Love Field is not located within the vicinity of a designated wild and scenic river. No impacts to wild and scenic rivers is anticipated as a result of airport development.

WATERS OF THE U.S., INCLUDING WETLANDS

Prior to any development activities, the airport sponsor should request a jurisdictional delineation from the U.S. Army Corps of Engineers for the development area including the future proposed airport property. This delineation would identify any waters of the U.S., including wetlands and intermittent streams, under jurisdiction of this agency. If the proposed construction could directly or indirectly affect any waters of the U.S., the project might require a U.S. Army Corps of Engineers permit per *Section 404 of the Clean Water Act*.

FLOODPLAINS

As part of the evaluation process, the Yavapai County Flood Control District was contacted. Enclosed with their correspondence dated October 23, 1996, were copies of the Flood Insurance Rate Map (FIRM) for the airport area. According to Community-Panels 040093 0825 B and 040093 1030 B, dated August 19, 1985, the proposed airport development could be impacted by a section of "Zone A", or "areas of 100-year flood." It is recommended that the Yavapai County Flood Control District be contacted to review surface water management for the airport property prior to construction activities in this area.

FARMLAND

According to correspondence received from the United States Department of Agriculture, dated October 29, 1996, "The proposed site for the airport does not include any prime farmlands." Since no cultivated or irrigated farmland is located within the airport property or the property to be acquired, no impacts to prime farmland are anticipated.

ENERGY SUPPLY AND NATURAL RESOURCES

No concern regarding existing energy production facilities or known energy resource supplies was expressed by the agencies for this proposed development. A slight increase in energy demand will likely occur as a result of the proposed project. Additional electricity will be needed for the proposed runway and taxiway extensions, new/relocated navigation lights, the terminal building, hangars and parking areas. In addition to this electric demand, expenditures of manpower, fuel, electricity, chemicals, water and other forms of energy will be necessary to construct the improvements and to provide for maintenance and operation of the facilities.

LIGHT EMISSIONS

The proposed lighting improvements for the 20-year development plan include the installation of additional Medium Intensity Runway Lighting (MIRL) on the proposed runway extensions, additional Medium Intensity Taxiway Lighting (MITL) on the proposed taxiway extensions and new taxiway exits, relocation of PAPIs on Runways 21L and 21R, and the relocation of the MASLRs on Runway 21L. It is also anticipated that outdoor lighting would be installed within the automobile parking areas, aircraft parking apron and surrounding all terminal and FBO buildings and hangars.

Because of the distance from the airfield to light-sensitive land uses, impacts associated with any new light emissions are not expected to be significant.

SOLID WASTE

Slight increases in the generation of solid waste are anticipated as a result of the proposed development and overall growth in aviation activity. Because landfills can attract birds for feeding, the location of landfills near airports is not desired.

According to the Arizona Department of Environmental Quality Solid Waste Section Directories of Active, Inactive, and Closed Solid Waste Facilities, dated October 8, 1996, the only existing facility is the City of Prescott landfill, known as Sun Dog Ranch Road Landfill, is located approximately five miles south of the airport along State Route 89. No other proposed, closed or existing landfills or transfer stations were identified within 3,000 meters or 9,843 feet of any of the three runways at Ernest A. Love Field.

CONSTRUCTION IMPACTS

Construction activities have the potential to create temporary environmental impacts at an airport. These impacts primarily relate to noise resulting from heavy construction equipment, fugitive dust emissions resulting from construction activities, and potential impacts on water quality from runoff and soil erosion from exposed surfaces.

A temporary increase in particulate emissions and fugitive dust may result from construction activities. The use of temporary dirt access roads would increase the generation of particulates. Dust control measures, such as watering exposed soil areas, will need to be implemented to minimize this localized impact.

Any necessary clearing and grubbing of construction areas should be conducted in sections or sequenced to minimize the amount of exposed soil at any one time. All vehicular traffic should be restricted to the construction site and established roadways.

The provisions contained in *FAA Advisory Circular 150/5370-10, Standards for Specifying Construction of Airports, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control* will be incorporated into all project specifications. During construction, temporary dikes, basins, and ditches should be utilized to control soil erosion and sedimentation and prevent degradation of off-airport surface water quality. After construction is complete, slopes and denuded areas should be reseeded to aid in the vegetation process.

CONCLUSION

Based on the review of correspondence provided by various federal, state and local agencies, potential environmental issues and considerations anticipated as a result of the development and operation of Ernest A. Love Field have been identified.

As a result of the NEPA process, mitigation measures may be recommended to limit the potential impacts related to a number of these resources. Please note that as more specific information is gathered through a formal EA process, additional issues may arise.